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NPDES – Fourth Quarter 2012 Monitoring Report

Watkins-Johnson Superfund Site
Scotts Valley, California

January 28, 2013

ARCADIS

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NPDES – Fourth Quarter 2012 Monitoring Report

Watkins-Johnson
Superfund Site
Scotts Valley, California

Prepared for:
California Regional Water Quality Control Board

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Table of Contents

1. Introduction **1**

2. Groundwater Extraction and Treatment System **1**

2.1 GWETS Operational Summary 2

2.1.1 Description of Operations 2

2.1.2 Fourth Quarter 2012 Summary 3

2.2 Chemical Parameter Data 3

2.2.1 Treatment System Operation 3

2.2.2 Bean Creek 4

3. Conclusions and Recommendations **4**

Tables

1 Summary of Groundwater Extraction, Usage, and Discharge to Bean Creek

2 Results of Laboratory Analyses for Volatile Organic Compounds in the Treatment System

3 Groundwater Extraction and Treatment System Mass Removal Summary

Figures

1 Locations of Bean Creek Sampling Points

2 Volume of Water Extracted, Reused, and Discharged to Bean Creek

Appendices

A Groundwater Treatment System Process and Instrumentation Diagram

B Laboratory Analytical Reports and Chain-of-Custody Documentation

1. Introduction

ARCADIS has prepared this fourth quarter 2012 National Pollution Discharge Elimination System (NPDES) monitoring report for the groundwater extraction and treatment system (GWETS) at the former Watkins-Johnson Company (WJC) facility located at 440 Kings Village Road, Scotts Valley, California (the Site). The facility has changed ownership several times. WJC owned and operated the facility in the late 1980s when the Site was proposed for listing on the National Priorities List. Silicon Valley Group took possession of the Site after WJC. The property was subsequently sold to ASML U.S., Inc. (ASML), and in October 2003, ownership of the facility was transferred from ASML to Aviza Technology.

This report is submitted to comply with the requirements of Monitoring and Reporting Program (MRP) Number R3-2006-0067, issued for NPDES Permit Number CAG993002 and outlines significant events and monitoring data for the fourth quarter 2012 (October 1 through December 31, 2012).

2. Groundwater Extraction and Treatment System

Currently, the Site GWETS treated water discharge is permitted under MRP Number R3-2006-0067, issued for NPDES Permit Number CAG993002. The GWETS Operation and Maintenance (O&M) activities follow the monitoring and reporting program MRP Number R3-2006-0067. The program includes routine treatment system, effluent, flow rate, and receiving water monitoring and quarterly reporting.

The current program consists of monthly sampling at the liquid-phase granular activated carbon (LPGAC) vessel influent (TS-IN), the midpoint between the two LPGAC vessels (TS-MID), and the LPGAC vessel effluent (TS-OUT). System flow rates are also monitored monthly. The samples are analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Test Method 8260B, chromium and nickel using USEPA Method 6020, and hexavalent chromium using USEPA Method 7199. Receiving waters are visually monitored at a minimum of quarterly at the Bean Creek discharge pipe (BCDP), the Bean Creek upstream receiving water sample point (BC-6), and the Bean Creek downstream receiving water sample point (BC-7). Figure 1 shows the locations of the Bean Creek monitoring points. When the system is in operation, physical parameters of the effluent are measured at TS-OUT annually during the third quarter. A system process and instrumentation diagram (P&ID) is presented in Appendix A (*Remedial Action and Operation and Maintenance Plan, Watkins-Johnson Company Scotts Valley California, Watkins-Johnson Environmental, Inc. February 25, 1994 Figure 2.*4).

With approval from the USEPA (letter from USEPA to ARCADIS dated November 21, 2008), ARCADIS shut down extraction well RA-2 on December 19, 2008 to evaluate groundwater conditions and quality at the Site under a no-pumping state (as described in *Proposal for RA-2 Shutdown and Groundwater Concentration Rebound Evaluation, ARCADIS,* November 6, 2008). On July 2, 2009, ARCADIS submitted the *Summary of RA-2 Shutdown and Groundwater Concentration Rebound Evaluation* to the USEPA, with the recommendation that the treatment system be permanently shut down because remedial goals for the Site had been reached. The USEPA requested in a letter dated August 17, 2009 that the GWETS be restarted. ARCADIS restarted the GWETS operation November 19, 2009, as described in the *Groundwater Treatment System Startup Report* submitted to the RWQCB on December 8, 2009.

The GWETS was temporarily shutdown during the fourth quarter 2011 to complete a carbon changeout. The system was officially restarted on December 28, 2011.

2.1 GWETS Operational Summary

This section describes the operation of the GWETS and summarizes the data for the fourth quarter 2012.

2.1.1 Description of Operations

The GWETS consists of a combination of groundwater extraction, treatment, and discharge facilities. Historically, groundwater was extracted from both the Perched Zone and the Santa Margarita Regional Zone (Regional Zone). By 2003, the Perched Zone extraction wells were no longer in use. Groundwater continued to be extracted from both Regional Zone wells RA-1 and RA-2, until the second quarter 2004 when the pump in RA-1 stopped operating. Prior to the pump failure, extraction well RA-1 did not pump water that exceeded the MCLs. In fact, neither trichloroethene (TCE) nor tetrachloroethene (PCE) had been detected in samples from well RA-1 since June 1999; the most recent sample was collected in June 2002 and neither compound was detected.

Extracted water is discharged into a 10,000-gallon polypropylene surge tank located adjacent to two LPGAC vessels. Collected groundwater is pumped through the two 20,000-pound LPGAC vessels, routed through a system of mostly above-ground piping, then into a second 10,000-gallon polypropylene storage tank. Treated groundwater is discharged under permit to Bean Creek, a tributary of the San Lorenzo River. As part of the remedial strategy for the Site, from June 1988 to May 2000, a portion of the treated groundwater was also discharged to the Perched Zone via infiltration galleries. Because the remediation goal for the Perched Zone was achieved in 2000, groundwater is no longer recharged through the infiltration galleries.

Measurements of the flow totalizer readings are collected monthly at the GWETS effluent point and at the extraction point for the plant domestic water system. The difference, if any, between these readings provides an estimate of the total volume of treated effluent that is discharged into Bean Creek.

2.1.2 Fourth Quarter 2012 Summary

During the fourth quarter 2012, approximately 3.4 million gallons of water were extracted from the Regional Zone using extraction well RA-2, representing an average of approximately 38,421 gallons per day (gpd) and about 17 gallons per minute (gpm). Estimated monthly volumes for the fourth quarter 2012 are shown in Table 1 and Figure 2.

2.2 Chemical Parameter Data

This section presents the chemical data for the treatment system and observations for Bean Creek.

2.2.1 Treatment System Operation

Treatment system water confirmation samples were collected on October 23, November 19, and December 7, 2012. The monitoring results for the TS-IN (influent), TS-MID (midpoint), and TS-OUT (effluent from the treatment system) samples are presented in Table 2 and are discussed below. The reporting period laboratory analytical reports and chain-of-custody documentation are presented in Appendix B.

In the TS-IN sample, the following was noted during the reporting period:

- PCE concentrations were between 4.2 and 7.5 µg/L;
- TCE concentrations ranged from not-detected to 0.5 µg/L;
- No other VOCs were detected;
- Nickel concentrations were between 25 and 190 µg/L;
- Chromium concentrations ranged from not-detected to 7.0 µg/L ;
- Hexavalent Chromium concentrations ranged from not-detected to 0.69 µg/L.

In the TS-MID sample, the following was noted during the reporting period:

- No VOCs were detected;
- Nickel concentrations were not detected;

- Chromium concentrations were between 8.8 and 22 µg/L;
- Hexavalent Chromium concentrations were between 3.8 and 13 µg/L.

In the TS-OUT sample, the following was noted during the reported period:

- No VOCs were detected;
- Nickel concentrations were not detected;
- Chromium concentrations were between not detected to 1.5 µg/L;
- Hexavalent Chromium concentrations were not detected.

As noted in Section 2.1.2, during the fourth quarter 2012, the GWETS treated approximately 3.4 million gallons of groundwater based on the system totalizer readings (Table 1). This constituted an average flow rate of approximately 17 gpm. The GWETS performance data, including the cumulative mass of VOCs removed during the fourth quarter 2012 are presented in Table 3. The estimated mass of total VOCs removed from groundwater using the GWETS during the fourth quarter 2012 was approximately 0.0683 pounds.

2.2.2 Bean Creek

The fourth quarter 2012 observation of the receiving water conditions indicates no unusual discoloration or floating matter (insects and small fish). These results are consistent with past results and observations.

3. Conclusions and Recommendations

During the fourth quarter 2012, 0.0683 pounds of total VOCs mass were removed by pumping approximately 3.4 million gallons of groundwater.

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Tables

Table 1
Summary of Groundwater Extraction, Usage, and Discharge to Bean Creek
Watkins-Johnson Superfund Site
Scotts Valley, California
NPDES Fourth Quarter 2012 Monitoring Report

Month	Notes	Groundwater Extracted (gallons)	Treated Water Reused by Facility (gallons)	Treated Water Discharged to Bean Creek (gallons)	Perched Zone Infiltration[1]
Fourth Quarter 2012 Total					
Oct-12	2	726,360	--	726,360	0
Nov-12	2	923,600	--	923,600	0
Dec-12	2	1,807,888	--	1,807,888	0
Fourth Quarter 2012 Total		**3,457,848**	**0**	**3,457,848**	**0**

Notes:

1 The groundwater infiltration system has been shut off since May 2000.

2 Total monthly volumes were estimated based on average daily flow rates between site visits on October 23, November 19, and December 7, 2012.

-- Following December 2008 shutdown, treated water is not reused by the facility.

Table 2
Results of Laboratory Analyses for Volatile Organic Compounds in the Treatment System
Watkins-Johnson Superfund Site
Scotts Valley, California
NPDES Fourth Quarter 2012 Monitoring Report

Sample Identification	Sampling Location	Date Sampled	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Vinyl Chloride	Freon 113 (µg/L)	1,1,1-TCA (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)	Nickel (µg/L)
Permit Limits for Effluent Water			**0.8**	**2.7**	**6**	**10**	**0.5**		**200**	**50**	**10**	**52**
TS-IN	**Treatment System Influent Water**	10/23/12	4.2	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	1.5	<0.52	25.0
		11/19/12	7.5	0.5	<0.50	<0.50	<0.50	<5.0	<0.50	<5.0	0.69	160
		12/07/12	4.5	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	7.0	<0.50	190
TS-MID	**Water Between LPGAC Vessels**	10/23/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	9.0	3.8	<1.0
		11/19/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	22	13	<1.0
		12/07/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	8.8	11.0	<1.0
TS-OUT	**Treatment System Effluent Water**	10/23/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	1.5	<0.52	<1.0
		11/19/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<1.0
		12/07/12	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<1.0

Notes:
Detected values shown in bold.
Analysis performed using United States Environmental Protection Agency (USEPA) Method 8260B.
Analyses performed by Curtis & Tompkins Ltd., Berkeley, California.
--- Not Analyzed.
B - Low response was observed for hexavalent chromium in the CCV analyzed on 9/13/12 at 16:38.

TS-IN	Treatment System Influent Water		
TS-MID	Water between LPGAC vessels	LPGAC	Liquid phase granular activated carbon
TS-OUT	Treatment System Effluent Water	PCE	Tetrachloroethene
1,1,1-TCA	1,1,1-Trichloroethane	TCE	Trichloroethene
MTBE	methyl tertiary butyl ether	µg/L	Micrograms per liter
cis-1,2-DCE	cis-1,2-Dichloroethene	<	Symbol indicates not detected at or above the laboratory reporting limit as noted.

Table 3
Groundwater Extraction and Treatment System Mass Removal Summary
Watkins-Johnson Superfund Site
Scotts Valley, California

NPDES Fourth Quarter 2012 Monitoring Report

Month	Notes	Volume Extracted (gallons)	Influent VOC Concentration (µg/L)[1]	Total VOC Mass Removed (lb)
Fourth Quarter 2012 Total				
Oct-12		726,360	4.2	0.0112
Nov-12		923,600	8.0	0.0272
Dec-12		1,807,888	4.5	0.0299
Fourth Quarter 2012 Total		**3,457,848**	**---**	**0.0683**

Notes:

µg/L	micrograms per liter
lb	pounds
VOC	volatile organic compounds
---	not applicable
1	Sum of concentrations of detected VOCs used for each month of the quarter.

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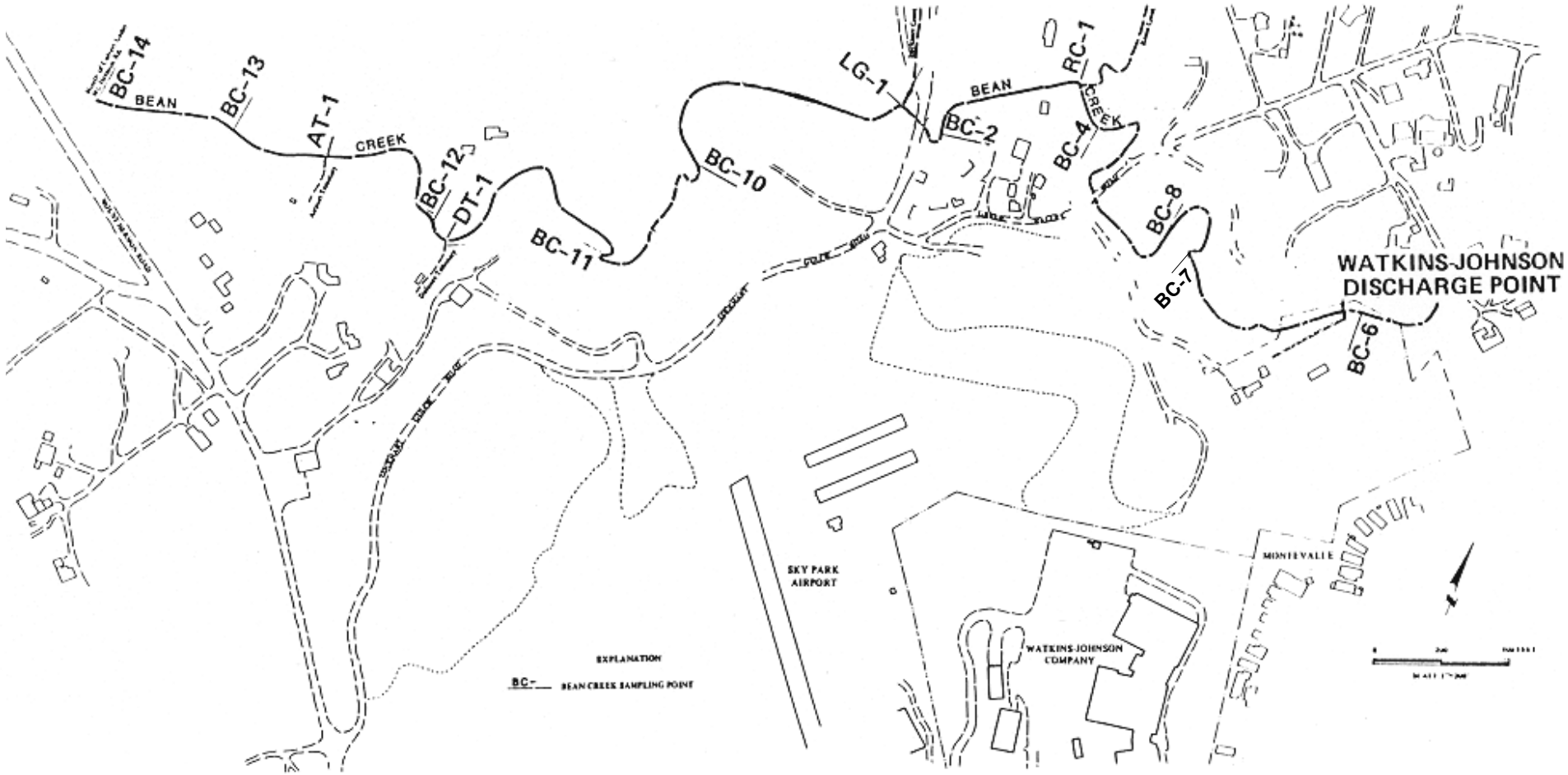
Figures



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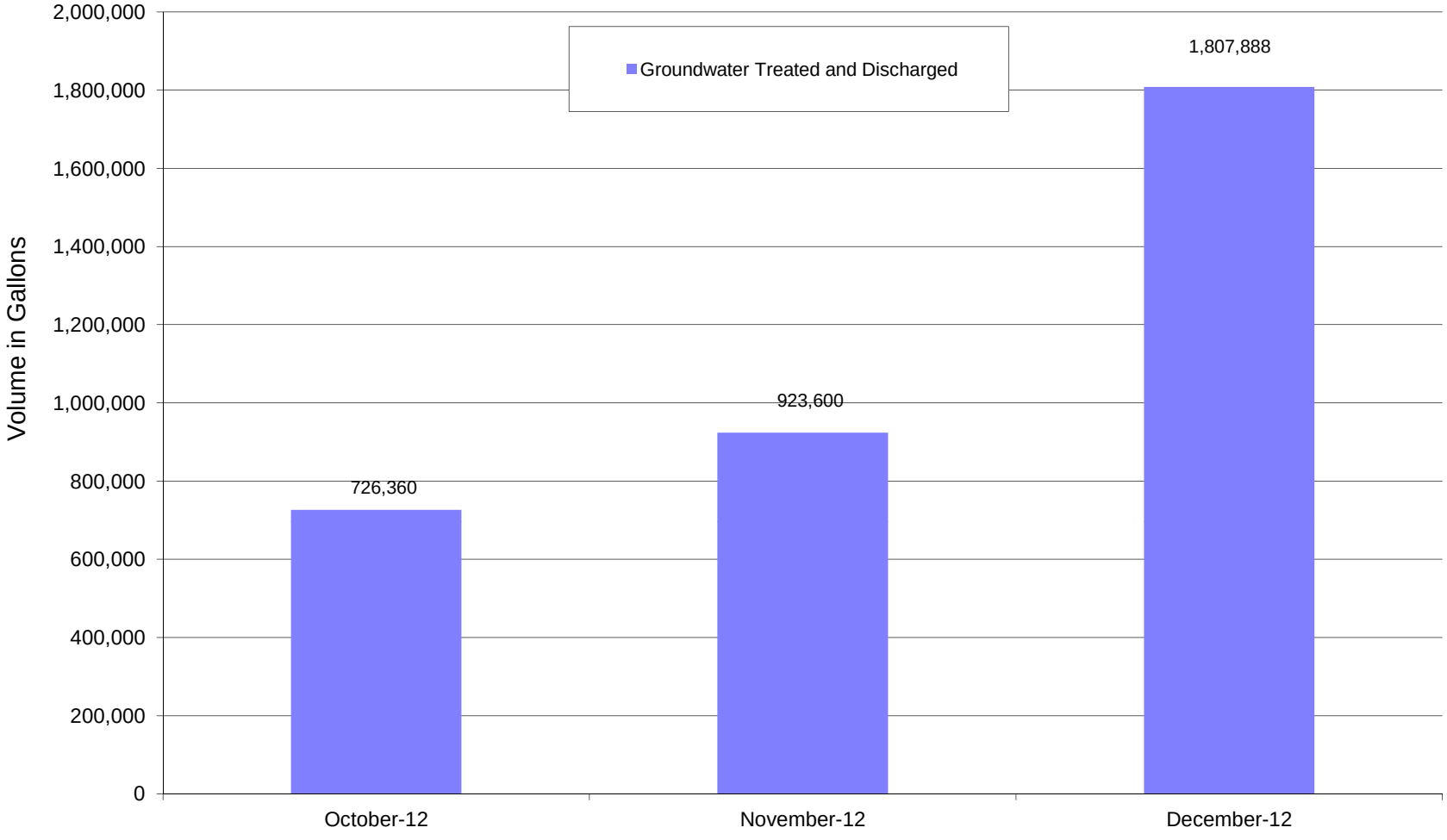
LOCATIONS OF BEAN CREEK SAMPLING POINTS
WATKINS-JOHNSON FACILITY
Silicon Valley Group
Scotts Valley, California

RC000463.0015

FIGURE

1

Figure 2
Volume of Groundwater Extracted, Treated, and Discharged to Bean Creek
NPDES Fourth Quarter 2012 Monitoring Report



Note: Groundwater infiltration system has been off since May 2000

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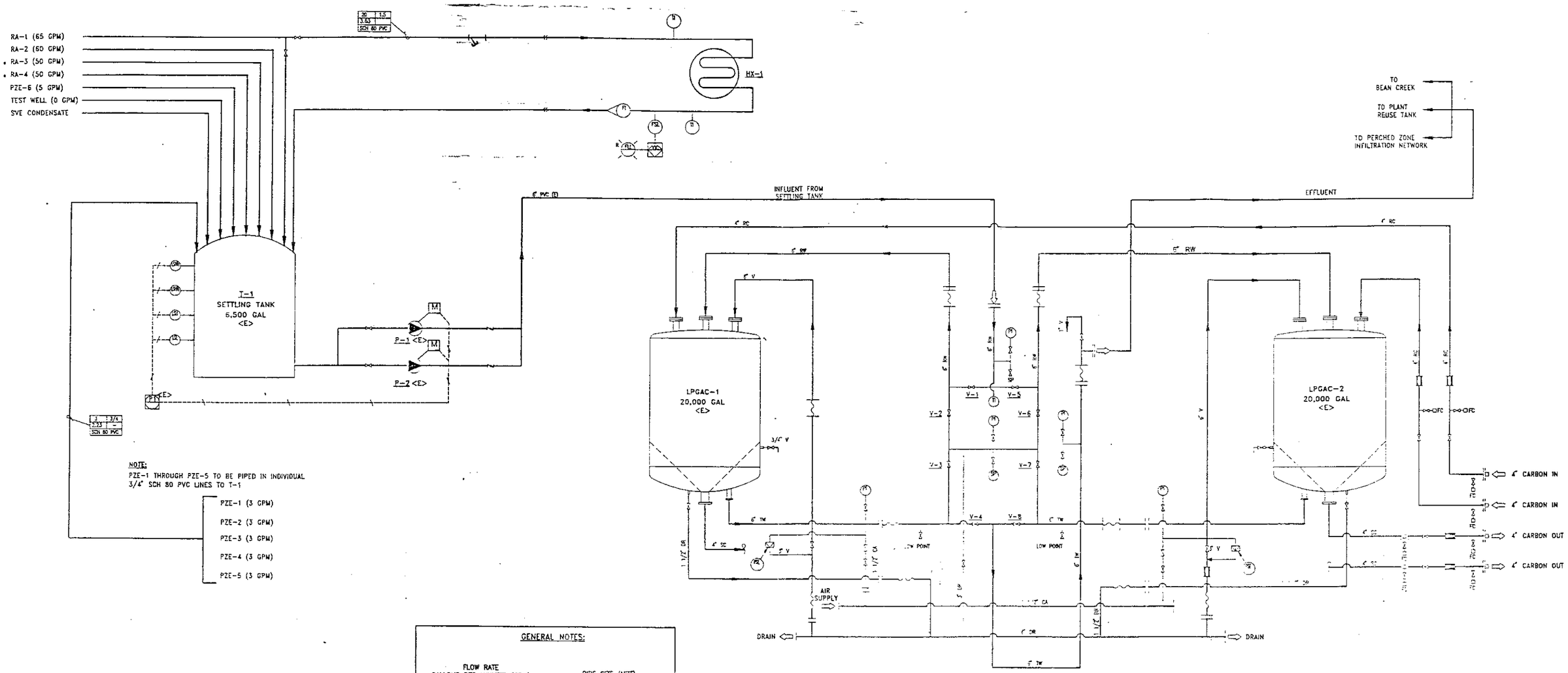
Appendix **A**

Groundwater Treatment System
Process and Instrumentation
Diagram



GENERAL NOTES:

FLOW RATE GALLONS PER MINUTES (GPM)
PIPE SIZE (NPT) INCHES NOM.
FLUID VELOCITY (FEET PER SECOND)
LINE PRESSURE (psi)
PIPING MAT'L

ALL INSTRUMENT AND SYMBOL DESIGNATIONS ARE IN ACCORDANCE WITH ANSI/ISA S5.1-1984 (R1992)

LEGEND

BW	BACKWASH WATER
CA	COMPRESSED AIR
DR	DRAIN
FC	FLUSH CONNECTION
PSE	BURST PLATE
PW	PLANT WATER
RC	REACT. (OR VIRGIN) CARBON
RW	RAW WATER
SC	SPENT CARBON SLURRY
TW	TREATED WATER

WJ009325

REV	DATE	DESCRIPTION	BY	CHD	APP

WATKINS-JOHNSON ENVIRONMENTAL, INC.
Groundwater Consultants and Engineers

PROJECT NAME W-J CO, SCOTTS VALLEY, CA
PROJECT No 9200-134
DR K.N. DATE 2/25/94
CHK DATE
APP DATE

PROCESS AND INSTRUMENTATION DIAGRAM FOR GROUNDWATER TREATMENT SYSTEM

DWG No S000811A
SCALE FIGURE 2.4

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Appendix **B**

Laboratory Analytical Reports and Chain-of-Custody Documentation

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 241813
ANALYTICAL REPORT

Arcadis	Project : RC000463
2000 Powell St	Location : SVG AVIZA Scotts Valley, CA
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
TS-OUT	241813-001
TS-MID	241813-002
TS-IN	241813-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Desiree N. Tetrault Date: 12/21/2012

Desiree N. Tetrault
Project Manager
(510) 486-0900

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**241813**
Client:	**Arcadis**
Project:	**RC000463**
Location:	**SVG AVIZA Scotts Valley, CA**
Request Date:	**12/07/12**
Samples Received:	**12/07/12**

This data package contains sample and QC results for three water samples, requested for the above referenced project on 12/07/12. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Metals (EPA 6020):
No analytical problems were encountered.

Hexavalent Chromium by Ion Chromatograph (EPA 7199):
No analytical problems were encountered.

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 241813 Date Received 12/7/12 Number of coolers 1
Client ARCADIS Project RC000463.0112. NA212

Date Opened 12/7/12 By (print) EL (sign) E. Le
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
   Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ YES NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☒ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☒ Samples Received on ice & cold without a temperature blank; ~~temp. taken with IR gun~~

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ YES NO
10. Are there any missing / extra samples? _____ YES NO
11. Are samples in the appropriate containers for indicated tests? _____ YES NO
12. Are sample labels present, in good condition and complete? _____ YES NO
13. Do the sample labels agree with custody papers? _____ YES NO
14. Was sufficient amount of sample sent for tests requested? _____ YES NO
15. Are the samples appropriately preserved? _____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A
17. Did you document your preservative check? _____ YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 10, 11/11

Curtis & Tompkins Sample Preservation for 241813

Sample	pH: <2	>9	>12	Other
-001a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[X]	[ ]	[ ]	_____
e	[ ]	[ ]	[ ]	_____
-002a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[X]	[ ]	[ ]	_____
e	[ ]	[ ]	[ ]	_____
-003a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[X]	[ ]	[ ]	_____
e	[ ]	[ ]	[ ]	_____

Analyst: EL

Date: 12/7/12

Page 1 of 1

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-OUT	Batch#:	193870
Lab ID:	241813-001	Sampled:	12/07/12
Matrix:	Water	Received:	12/07/12
Units:	ug/L	Analyzed:	12/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-MID	Batch#:	193870
Lab ID:	241813-002	Sampled:	12/07/12
Matrix:	Water	Received:	12/07/12
Units:	ug/L	Analyzed:	12/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-IN	Batch#:	193870
Lab ID:	241813-003	Sampled:	12/07/12
Matrix:	Water	Received:	12/07/12
Units:	ug/L	Analyzed:	12/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	4.5	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	69-148
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	193870
Units:	ug/L	Analyzed:	12/14/12
Diln Fac:	1.000		

Type: BS Lab ID: QC670246

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.68	101	65-130
Trichloroethene	12.50	11.70	94	76-121
Chlorobenzene	12.50	11.60	93	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	69-148
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-121

Type: BSD Lab ID: QC670247

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	13.36	107	65-130	5	22
Trichloroethene	12.50	11.95	96	76-121	2	20
Chlorobenzene	12.50	11.80	94	80-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC670248	Batch#:	193870
Matrix:	Water	Analyzed:	12/14/12
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	103	80-120
Bromofluorobenzene	102	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Chromium

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 200.8
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Chromium	Sampled:	12/07/12
Matrix:	Water	Received:	12/07/12
Units:	ug/L	Prepared:	12/11/12
Diln Fac:	5.000	Analyzed:	12/12/12
Batch#:	193740		

Field ID	Type	Lab ID	Result	RL
TS-OUT	SAMPLE	241813-001	ND	1.0
TS-MID	SAMPLE	241813-002	8.8	1.0
TS-IN	SAMPLE	241813-003	7.0	1.0
	BLANK	QC669729	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Nickel

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 200.8
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Nickel	Batch#:	193740
Matrix:	Water	Sampled:	12/07/12
Units:	ug/L	Received:	12/07/12
Diln Fac:	5.000	Prepared:	12/11/12

Field ID	Type	Lab ID	Result	RL	Analyzed
TS-OUT	SAMPLE	241813-001	ND	1.0	12/18/12
TS-MID	SAMPLE	241813-002	ND	1.0	12/18/12
TS-IN	SAMPLE	241813-003	190	1.0	12/12/12
	BLANK	QC669729	ND	1.0	12/14/12

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Chromium

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 200.8
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Chromium	Batch#:	193740
Field ID:	ZZZZZZZZZZ	Sampled:	12/03/12
MSS Lab ID:	241722-003	Received:	12/05/12
Matrix:	Water	Prepared:	12/11/12
Units:	ug/L	Analyzed:	12/12/12
Diln Fac:	5.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC669730		100.0	83.80	84	75-120		
BSD	QC669731		100.0	86.35	86	75-120	3	20
MS	QC669732	0.3465	100.0	84.85	85	66-120		
MSD	QC669733		100.0	85.00	85	66-120	0	32

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Nickel

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	EPA 200.8
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Nickel	Batch#:	193740
Field ID:	ZZZZZZZZZZ	Sampled:	12/03/12
MSS Lab ID:	241722-003	Received:	12/05/12
Matrix:	Water	Prepared:	12/11/12
Units:	ug/L	Analyzed:	12/12/12
Diln Fac:	5.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC669730		100.0	89.30	89	61-131		
BSD	QC669731		100.0	91.30	91	61-131	2	23
MS	QC669732	3.355	100.0	87.75	84	57-126		
MSD	QC669733		100.0	89.60	86	57-126	2	42

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Hexavalent Chromium

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	METHOD
Project#:	RC000463	Analysis:	EPA 7199
Matrix:	Water	Batch#:	193623
Units:	ug/L	Received:	12/07/12
Diln Fac:	1.000		

Field ID:	TS-OUT	Sampled:	12/07/12 10:11
Type:	SAMPLE	Analyzed:	12/07/12 17:42
Lab ID:	241813-001		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

Field ID:	TS-MID	Sampled:	12/07/12 10:17
Type:	SAMPLE	Analyzed:	12/07/12 17:55
Lab ID:	241813-002		

Analyte	Result	RL
Hexavalent Chromium	11	0.50

Field ID:	TS-IN	Sampled:	12/07/12 10:23
Type:	SAMPLE	Analyzed:	12/07/12 18:07
Lab ID:	241813-003		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

Type:	BLANK	Analyzed:	12/07/12 13:36
Lab ID:	QC669224		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Hexavalent Chromium

Lab #:	241813	Location:	SVG AVIZA Scotts Valley, CA
Client:	Arcadis	Prep:	METHOD
Project#:	RC000463	Analysis:	EPA 7199
Field ID:	ZZZZZZZZZZ	Batch#:	193623
MSS Lab ID:	241809-001	Sampled:	12/07/12 09:09
Units:	ug/L	Received:	12/07/12

Type:	LCS	Diln Fac:	1.000
Lab ID:	QC669225	Analyzed:	12/07/12 13:48
Matrix:	Water		

Analyte	Spiked	Result	%REC	Limits
Hexavalent Chromium	20.00	21.48	107	90-110

Type:	MS	Diln Fac:	10.00
Lab ID:	QC669226	Analyzed:	12/07/12 19:02
Matrix:	Filtrate		

Analyte	MSS Result	Spiked	Result	%REC	Limits
Hexavalent Chromium	299.5	100.0	409.3	110	85-115

Type:	MSD	Diln Fac:	10.00
Lab ID:	QC669227	Analyzed:	12/07/12 19:15
Matrix:	Filtrate		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Hexavalent Chromium	100.0	406.2	107	85-115	1	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 241395
ANALYTICAL REPORT

Arcadis	Project : RC000463
2000 Powell St	Location : Aviza Scotts Valley
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
TS-OUT	241395-001
TS-MID	241395-002
TS-IN	241395-003
TB111912	241395-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Desiree N. Tetrault Date: 11/28/2012

Desiree N. Tetrault
Project Manager
(510) 486-0900

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**241395**
Client:	**Arcadis**
Project:	**RC000463**
Location:	**Aviza Scotts Valley**
Request Date:	**11/19/12**
Samples Received:	**11/19/12**

This data package contains sample and QC results for three water samples, requested for the above referenced project on 11/19/12. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

EPA 7199 Cr+6 (EPA 7199):
Accutest Labs in San Jose, CA performed the analysis (NELAP certified). Please see the Accutest Labs case narrative.

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 241395 Date Received 11/19/12 Number of coolers 1
Client Arcadis Project Aviza Scotts Valley

Date Opened 11/19/12 By (print) AA (sign) [signature]
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☑ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☑ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 3

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are there any missing / extra samples? _____ (YES) NO
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? _____ (YES) NO N/A
17. Did you document your preservative check? _____ (YES) NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS
10. Received 2 VOAs labeled "TB111912" not documented on COC, logged in as sample-004 on HOLD.

Rev 10, 11/11

Curtis & Tompkins Sample Preservation for 241395

Sample	pH: <2	>9	>12	Other
-001a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____
-002a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____
-003a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____

Analyst: _____
Date: 11/19/12

Page 1 of 1

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-OUT	Batch#:	193140
Lab ID:	241395-001	Sampled:	11/19/12
Matrix:	Water	Received:	11/19/12
Units:	ug/L	Analyzed:	11/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	115	69-148
Toluene-d8	89	80-120
Bromofluorobenzene	87	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-MID	Batch#:	193140
Lab ID:	241395-002	Sampled:	11/19/12
Matrix:	Water	Received:	11/19/12
Units:	ug/L	Analyzed:	11/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	115	69-148
Toluene-d8	90	80-120
Bromofluorobenzene	85	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-IN	Batch#:	193140
Lab ID:	241395-003	Sampled:	11/19/12
Matrix:	Water	Received:	11/19/12
Units:	ug/L	Analyzed:	11/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	0.5	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	7.5	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	69-148
Toluene-d8	90	80-120
Bromofluorobenzene	88	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC667219	Batch#:	193140
Matrix:	Water	Analyzed:	11/25/12
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	69-148
Toluene-d8	90	80-120
Bromofluorobenzene	87	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	193140
Units:	ug/L	Analyzed:	11/25/12
Diln Fac:	1.000		

Type: BS Lab ID: QC667220

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.09	97	65-130
Trichloroethene	12.50	11.41	91	76-121
Chlorobenzene	12.50	11.86	95	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	69-148
Toluene-d8	90	80-120
Bromofluorobenzene	88	80-121

Type: BSD Lab ID: QC667221

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.39	91	65-130	6	22
Trichloroethene	12.50	10.91	87	76-121	4	20
Chlorobenzene	12.50	11.41	91	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	117	69-148
Toluene-d8	90	80-120
Bromofluorobenzene	88	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Chromium

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6010B
Analyte:	Chromium	Sampled:	11/19/12
Matrix:	Water	Received:	11/19/12
Units:	ug/L	Prepared:	11/21/12
Diln Fac:	1.000	Analyzed:	11/26/12
Batch#:	193124		

Field ID	Type	Lab ID	Result	RL
TS-OUT	SAMPLE	241395-001	ND	5.0
TS-MID	SAMPLE	241395-002	22	5.0
TS-IN	SAMPLE	241395-003	ND	5.0
	BLANK	QC667159	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Nickel

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6010B
Analyte:	Nickel	Sampled:	11/19/12
Matrix:	Water	Received:	11/19/12
Units:	ug/L	Prepared:	11/21/12
Diln Fac:	1.000	Analyzed:	11/26/12
Batch#:	193124		

Field ID	Type	Lab ID	Result	RL
TS-OUT	SAMPLE	241395-001	ND	5.0
TS-MID	SAMPLE	241395-002	ND	5.0
TS-IN	SAMPLE	241395-003	160	5.0
	BLANK	QC667159	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Chromium

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6010B
Analyte:	Chromium	Batch#:	193124
Field ID:	ZZZZZZZZZZ	Sampled:	11/16/12
MSS Lab ID:	241328-001	Received:	11/16/12
Matrix:	Water	Prepared:	11/21/12
Units:	ug/L	Analyzed:	11/26/12
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC667160		200.0	180.1	90	80-120		
BSD	QC667161		200.0	176.8	88	80-120	2	20
MS	QC667162	3.033	200.0	187.0	92	74-120		
MSD	QC667163		200.0	187.4	92	74-120	0	21

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Nickel

Lab #:	241395	Location:	Aviza Scotts Valley
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6010B
Analyte:	Nickel	Batch#:	193124
Field ID:	ZZZZZZZZZZ	Sampled:	11/16/12
MSS Lab ID:	241328-001	Received:	11/16/12
Matrix:	Water	Prepared:	11/21/12
Units:	ug/L	Analyzed:	11/26/12
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC667160		500.0	453.1	91	80-120		
BSD	QC667161		500.0	441.6	88	80-120	3	20
MS	QC667162	8.069	500.0	471.5	93	74-120		
MSD	QC667163		500.0	468.7	92	74-120	1	21

RPD= Relative Percent Difference

Laboratory Job Number 241395

Subcontracted Products

Accutest Labs

Northern California
ACCUTEST
LABORATORIES

11/29/12

Technical Report for

Curtis & Tompkins, Ltd.

Subcontract

Accutest Job Number: C24885

Sampling Date: 11/19/12

Report to:

Curtis & Tompkins, Ltd.
2323 Fifth St.
Berkeley, CA 94710
desiree.tetrault@ctberk.com

ATTN: Desiree Tetrault

Total number of pages in report: **15**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Kesavalu M. Bagawandoss, Ph.D., J.D., Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Summary of Hits **4**
Section 3: Sample Results **5**
3.1: C24885-1: TS-OUT 6
3.2: C24885-2: TS-MID 7
3.3: C24885-3: TS-IN 8
Section 4: Misc. Forms **9**
4.1: Chain of Custody 10
Section 5: General Chemistry - QC Data Summaries **12**
5.1: Method Blank and Spike Results Summary 13
5.2: Duplicate Results Summary 14
5.3: Matrix Spike Results Summary 15

Accutest Laboratories

Sample Summary

Curtis & Tompkins, Ltd.

Job No: C24885

Subcontract

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C24885-1	11/19/12	10:45	HT	11/19/12	AQ	Ground Water	TS-OUT
C24885-2	11/19/12	10:55	HT	11/19/12	AQ	Ground Water	TS-MID
C24885-3	11/19/12	11:05	HT	11/19/12	AQ	Ground Water	TS-IN

Summary of Hits

Job Number: C24885
Account: Curtis & Tompkins, Ltd.
Project: Subcontract
Collected: 11/19/12

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C24885-1	**TS-OUT**					
No hits reported in this sample.						
C24885-2	**TS-MID**					
Chromium, Hexavalent		0.013	0.00052		mg/l	SW846 7199
C24885-3	**TS-IN**					
Chromium, Hexavalent		0.00069	0.00052		mg/l	SW846 7199

Northern California ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TS-OUT		
Lab Sample ID:	C24885-1	**Date Sampled:**	11/19/12
Matrix:	AQ - Ground Water	**Date Received:**	11/19/12
		Percent Solids:	n/a
Project:	Subcontract		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.00052	0.00052	mg/l	1	11/19/12 15:04	PH	SW846 7199

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TS-MID		
Lab Sample ID:	C24885-2	**Date Sampled:**	11/19/12
Matrix:	AQ - Ground Water	**Date Received:**	11/19/12
		Percent Solids:	n/a
Project:	Subcontract		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.013	0.00052	mg/l	1	11/19/12 15:22	PH	SW846 7199

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TS-IN		
Lab Sample ID:	C24885-3	**Date Sampled:**	11/19/12
Matrix:	AQ - Ground Water	**Date Received:**	11/19/12
		Percent Solids:	n/a
Project:	Subcontract		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00069	0.00052	mg/l	1	11/19/12 15:40	PH	SW846 7199

RL = Reporting Limit

Northern California ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ARCADIS

Laboratory Task Order No./P.O. No. CTCAB4752 C24885

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number/Name ~~R0000463.~~ Curtis + Tompkins

Project Location Scotts Valley, CA

Laboratory Accutest

Project Manager Desiree Tetrault (510) 204-2221 Curtis + Tompkins

Sampler(s)/Affiliation H. Tauscher / Arcadis

ANALYSIS / METHOD / SIZE: Cr6 7196 Hexavalent Chromium

	Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	Cr6 7196 Hexavalent Chromium						Remarks	Total
-1	TS-OUT	WL	11/19/12 @1045		1							1
-2	TS-MID	WL	11/19/12 @1055		1							1
-3	TS-IN	WL	11/19/12 @1105		1							1

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 3

Relinquished by:	Organization: ARCADIS	Date 11/19/12	Time 1310	Seal Intact?	
Received by:	Organization: CFT	Date 11/19/12	Time 1310	Yes No N/A	
Relinquished by:	Organization: CFT	Date 11/19/12	Time 1340	Seal Intact?	
Received by:	Organization: Accutest	Date 11/19/12	Time 1340	Yes No N/A	

Special Instructions/Remarks:

*24 hour hold time **Report and bill directly to Curtis + Tompkins

Temp 5.7°C

Delivery Method: ☐ In Person ☐ Common Carrier (SPECIFY) ☐ Lab Courier ☒ Other (SPECIFY)

AG 05-12/01

C24885: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C24885 **Client:** CURTIS & TOMPKINS **Project:** SCOTT'S VALLEY, CA

Date / Time Received: 11/19/2012 **Delivery Method:** Client **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (5.7/5.7); 0

Cooler Security	Y	or	N
1. Custody Seals Present:	☐		☑
2. Custody Seals Intact:	☐		☐
3. COC Present:	☑		☐
4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☐		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:408.588.0200
2105 Lundy Avenue
F: 408.588.0201
San Jose, CA 95131
www/accutest.com

C24885: Chain of Custody
Page 2 of 2

Northern California
ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24885
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP4375/GN9564	0.00052	0.0	mg/l	0.02	0.0196	98.0	90-110%

Associated Samples:
Batch GP4375: C24885-1, C24885-2, C24885-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24885
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP4375/GN9564	C24885-3	mg/l	0.00069	0.00069	0.0	0-20%

Associated Samples:
Batch GP4375: C24885-1, C24885-2, C24885-3
(*) Outside of QC limits

5.2
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24885
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP4375/GN9564	C24885-3	mg/l	0.00069	0.02	0.020	96.5	85-115%

Associated Samples:
Batch GP4375: C24885-1, C24885-2, C24885-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 240654
ANALYTICAL REPORT

Arcadis	Project : RC000463
2000 Powell St	Location : SVG-Scotts Valley Aviza
Emeryville, CA 94608	Level : II

Sample ID	Lab ID	Sample ID	Lab ID
WESCOSA (GRAB)	240654-001	KV-2@190	240654-016
KV-1 (GRAB	240654-002	KV-2@200	240654-017
KV-2 (GRAB)	240654-003	DUP2	240654-018
DUP-2 (GRAB)	240654-004	KV-3@172	240654-019
KV-3 (GRAB)	240654-005	KV-3@182	240654-020
KV-4 (GRAB)	240654-006	KV-4	240654-021
WJ-41 (GRAB)	240654-007	WJ-41	240654-022
WJ-11 (GRAB)	240654-008	WJ-11	240654-023
DUP 1(GRAB)	240654-009	DUP1	240654-024
WJ-43 (GRAB)	240654-010	WJ-43	240654-025
WJ-37A (GRAB)	240654-011	WJ-37A	240654-026
TB102312	240654-012	TS-OUT	240654-027
WESCOSA	240654-013	TS-MID	240654-028
KV-1	240654-014	TS-IN	240654-029
KV-2@180	240654-015		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Desiree N. Tetrault Date: 10/31/2012

Desiree N. Tetrault
Project Manager
(510) 486-0900

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**240654**
Client:	**Arcadis**
Project:	**RC000463**
Location:	**SVG-Scotts Valley Aviza**
Request Date:	**10/23/12**
Samples Received:	**10/23/12**

This data package contains sample and QC results for twenty nine water samples, requested for the above referenced project on 10/23/12. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Metals (EPA 6020):
No analytical problems were encountered.

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 240654 Date Received 10/23/12 Number of coolers 1
Client ARCADIS Project SVE- SCOTTS VALLEY, CA

Date Opened 10/23 By (print) P.S. (sign) [signature]
Date Logged in ↓ By (print) [illegible] (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc) ____ YES NO
   Shipping info ____
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many ____ Name ____ Date ____
2B. Were custody seals intact upon arrival? ____ YES NO N/A
3. Were custody papers dry and intact when received? ____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? ____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ____ YES NO
6. Indicate the packing in cooler: (if other, describe) ____

☐ Bubble Wrap ☒ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 2-0

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ____ YES NO
   If YES, what time were they transferred to freezer? ____
9. Did all bottles arrive unbroken/unopened? ____ YES NO
10. Are there any missing / extra samples? ____ YES NO P.S.
11. Are samples in the appropriate containers for indicated tests? ____ YES NO
12. Are sample labels present, in good condition and complete? ____ YES NO
13. Do the sample labels agree with custody papers? ____ YES NO
14. Was sufficient amount of sample sent for tests requested? ____ YES NO
15. Are the samples appropriately preserved? ____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? ____ YES NO N/A
17. Did you document your preservative check? ____ YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? ____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? ____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? ____ YES NO N/A
21. Was the client contacted concerning this sample delivery? ____ YES NO
   If YES, Who was called? ____ By ____ Date: ____

COMMENTS
20) -003: REC'D 1 OF 3 VOAs w/ BUBBLE > 6mm
10) -012: REC'D 2 VOAs ONLY, COC STATES 3.
-027, -028, -029: REC'D 4 TOTAL CONTAINERS ONLY, COC STATES 5.

Rev 10, 11/11

Curtis & Tompkins Sample Preservation for 240654

Sample	pH: <2	>9	>12	Other
-027a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____
-028a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____
-029a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[✓]	[ ]	[ ]	_____

Analyst: AM

Date: 10/23/12

Page 1 of 1

Curtis & Tompkins, Ltd.

MTBE by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/23/12
Units:	ug/L	Received:	10/23/12
Diln Fac:	1.000	Analyzed:	10/24/12
Batch#:	192032		

Field ID: WESCOSA (GRAB) Lab ID: 240654-001
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

Field ID: KV-1 (GRAB Lab ID: 240654-002
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

Field ID: KV-2 (GRAB) Lab ID: 240654-003
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127

Field ID: DUP-2 (GRAB) Lab ID: 240654-004
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127

Field ID: KV-3 (GRAB) Lab ID: 240654-005
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

MTBE by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/23/12
Units:	ug/L	Received:	10/23/12
Diln Fac:	1.000	Analyzed:	10/24/12
Batch#:	192032		

Field ID: KV-4 (GRAB) Lab ID: 240654-006
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127

Field ID: WJ-41 (GRAB) Lab ID: 240654-007
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127

Field ID: WJ-11 (GRAB) Lab ID: 240654-008
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127

Field ID: DUP 1(GRAB) Lab ID: 240654-009
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

Field ID: WJ-43 (GRAB) Lab ID: 240654-010
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

MTBE by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/23/12
Units:	ug/L	Received:	10/23/12
Diln Fac:	1.000	Analyzed:	10/24/12
Batch#:	192032		

Field ID: WJ-37A (GRAB) Lab ID: 240654-011
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

Type: BLANK Lab ID: QC662489

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TB102312	Batch#:	192032
Lab ID:	240654-012	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TB102312	Batch#:	192032
Lab ID:	240654-012	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	109	69-148
Toluene-d8	92	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WESCOSA	Batch#:	192028
Lab ID:	240654-013	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	5.2	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	2.3	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	15	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	16	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WESCOSA	Batch#:	192028
Lab ID:	240654-013	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127
1,2-Dichloroethane-d4	105	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-1	Batch#:	192197
Lab ID:	240654-014	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/29/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	17	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	2.0	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-1	Batch#:	192197
Lab ID:	240654-014	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/29/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	101	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	93	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@180	Batch#:	192123
Lab ID:	240654-015	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	11	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	19	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.9	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	67	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@180	Batch#:	192123
Lab ID:	240654-015	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	100	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@190	Batch#:	192123
Lab ID:	240654-016	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	14	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	20	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.7	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	27	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@190	Batch#:	192123
Lab ID:	240654-016	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	100	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@200	Batch#:	192123
Lab ID:	240654-017	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	13	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	17	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.9	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	10	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-2@200	Batch#:	192123
Lab ID:	240654-017	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	99	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	97	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	DUP2	Batch#:	192080
Lab ID:	240654-018	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	15	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	29	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	2.5	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	63	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	DUP2	Batch#:	192080
Lab ID:	240654-018	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-127
1,2-Dichloroethane-d4	114	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-3@172	Batch#:	192080
Lab ID:	240654-019	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	19	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	26	10
cis-1,2-Dichloroethene	1.0	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	2.0	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	1.2	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-3@172	Batch#:	192080
Lab ID:	240654-019	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-127
1,2-Dichloroethane-d4	114	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	108	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-3@182	Batch#:	192080
Lab ID:	240654-020	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	22	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	26	10
cis-1,2-Dichloroethene	0.8	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.7	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	1.1	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-3@182	Batch#:	192080
Lab ID:	240654-020	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-127
1,2-Dichloroethane-d4	115	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	107	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-4	Batch#:	192080
Lab ID:	240654-021	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	22	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	29	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-4	Batch#:	192080
Lab ID:	240654-021	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-127
1,2-Dichloroethane-d4	116	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	108	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-41	Batch#:	192080
Lab ID:	240654-022	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	29	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	32	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.8	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	0.9	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-41	Batch#:	192080
Lab ID:	240654-022	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-127
1,2-Dichloroethane-d4	117	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-11	Batch#:	192123
Lab ID:	240654-023	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	12	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	23	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	0.8	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	43	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-11	Batch#:	192123
Lab ID:	240654-023	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	DUP1	Batch#:	192080
Lab ID:	240654-024	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	29	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	31	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.8	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	0.9	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	DUP1	Batch#:	192080
Lab ID:	240654-024	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	117	80-127
1,2-Dichloroethane-d4	117	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	108	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-43	Batch#:	192080
Lab ID:	240654-025	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	22	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	32	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	24	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-43	Batch#:	192080
Lab ID:	240654-025	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-127
1,2-Dichloroethane-d4	115	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-37A	Batch#:	192080
Lab ID:	240654-026	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	23	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	0.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	23	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WJ-37A	Batch#:	192080
Lab ID:	240654-026	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-127
1,2-Dichloroethane-d4	118	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	109	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-OUT	Batch#:	192080
Lab ID:	240654-027	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-OUT	Batch#:	192080
Lab ID:	240654-027	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-127
1,2-Dichloroethane-d4	115	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	109	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-MID	Batch#:	192171
Lab ID:	240654-028	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/27/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-MID	Batch#:	192171
Lab ID:	240654-028	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/27/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	101	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-IN	Batch#:	192171
Lab ID:	240654-029	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/27/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	4.2	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	TS-IN	Batch#:	192171
Lab ID:	240654-029	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Analyzed:	10/27/12
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-127
1,2-Dichloroethane-d4	99	69-148
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192028
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662474

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	20.63	83	65-130
Benzene	25.00	23.35	93	80-123
Trichloroethene	25.00	22.65	91	76-121
Toluene	25.00	22.71	91	80-120
Chlorobenzene	25.00	22.64	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	104	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-121

Type: BSD Lab ID: QC662475

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	23.74	95	65-130	14	22
Benzene	25.00	25.94	104	80-123	11	20
Trichloroethene	25.00	25.80	103	76-121	13	20
Toluene	25.00	25.43	102	80-120	11	20
Chlorobenzene	25.00	25.40	102	80-120	11	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662476	Batch#:	192028
Matrix:	Water	Analyzed:	10/24/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662476	Batch#:	192028
Matrix:	Water	Analyzed:	10/24/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	118	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192032
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662487

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	31.18	125	65-130
Benzene	25.00	28.14	113	80-123
Trichloroethene	25.00	26.15	105	76-121
Toluene	25.00	25.54	102	80-120
Chlorobenzene	25.00	25.10	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	109	69-148
Toluene-d8	91	80-120
Bromofluorobenzene	97	80-121

Type: BSD Lab ID: QC662488

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	28.74	115	65-130	8	22
Benzene	25.00	25.28	101	80-123	11	20
Trichloroethene	25.00	24.09	96	76-121	8	20
Toluene	25.00	24.48	98	80-120	4	20
Chlorobenzene	25.00	24.25	97	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	91	80-120
Bromofluorobenzene	96	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

MTBE by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192032
Units:	ug/L	Analyzed:	10/24/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662487

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	25.23	101	59-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127

Type: BSD Lab ID: QC662488

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.65	99	59-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662489	Batch#:	192032
Matrix:	Water	Analyzed:	10/24/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662489	Batch#:	192032
Matrix:	Water	Analyzed:	10/24/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	106	69-148
Toluene-d8	92	80-120
Bromofluorobenzene	98	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192080
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662683

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	30.14	121	65-130
Benzene	25.00	28.03	112	80-123
Trichloroethene	25.00	27.60	110	76-121
Toluene	25.00	27.98	112	80-120
Chlorobenzene	25.00	27.04	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-127
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-121

Type: BSD Lab ID: QC662684

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.52	110	65-130	9	22
Benzene	25.00	25.89	104	80-123	8	20
Trichloroethene	25.00	26.08	104	76-121	6	20
Toluene	25.00	26.56	106	80-120	5	20
Chlorobenzene	25.00	25.46	102	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	102	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662685	Batch#:	192080
Matrix:	Water	Analyzed:	10/25/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662685	Batch#:	192080
Matrix:	Water	Analyzed:	10/25/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	112	69-148
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192123
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662873

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.14	101	65-130
Benzene	25.00	24.35	97	80-123
Trichloroethene	25.00	22.83	91	76-121
Toluene	25.00	25.19	101	80-120
Chlorobenzene	25.00	25.23	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	101	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-121

Type: BSD Lab ID: QC662874

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	23.22	93	65-130	8	22
Benzene	25.00	22.29	89	80-123	9	20
Trichloroethene	25.00	21.12	84	76-121	8	20
Toluene	25.00	24.77	99	80-120	2	20
Chlorobenzene	25.00	24.17	97	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-127
1,2-Dichloroethane-d4	95	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662875	Batch#:	192123
Matrix:	Water	Analyzed:	10/26/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC662875	Batch#:	192123
Matrix:	Water	Analyzed:	10/26/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	98	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	192123
MSS Lab ID:	240711-002	Sampled:	10/25/12
Matrix:	Water	Received:	10/25/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	1.000		

Type: MS Lab ID: QC662929

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	25.00	24.32	97	71-122
Benzene	<0.1000	25.00	23.43	94	80-121
Trichloroethene	<0.1000	25.00	21.46	86	69-121
Toluene	<0.1000	25.00	24.57	98	80-120
Chlorobenzene	<0.1136	25.00	24.67	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-127
1,2-Dichloroethane-d4	102	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-121

Type: MSD Lab ID: QC662930

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	23.41	94	71-122	4	21
Benzene	25.00	22.04	88	80-121	6	20
Trichloroethene	25.00	20.43	82	69-121	5	20
Toluene	25.00	23.86	95	80-120	3	20
Chlorobenzene	25.00	23.89	96	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	96	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192171
Units:	ug/L	Analyzed:	10/27/12
Diln Fac:	1.000		

Type: BS Lab ID: QC663073

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	15.00	13.96	93	65-130
Benzene	15.00	13.83	92	80-123
Trichloroethene	15.00	12.66	84	76-121
Toluene	15.00	14.69	98	80-120
Chlorobenzene	15.00	14.76	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	98	69-148
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-121

Type: BSD Lab ID: QC663074

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	15.00	13.37	89	65-130	4	22
Benzene	15.00	13.10	87	80-123	5	20
Trichloroethene	15.00	12.20	81	76-121	4	20
Toluene	15.00	14.15	94	80-120	4	20
Chlorobenzene	15.00	14.46	96	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-127
1,2-Dichloroethane-d4	95	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC663075	Batch#:	192171
Matrix:	Water	Analyzed:	10/27/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC663075	Batch#:	192171
Matrix:	Water	Analyzed:	10/27/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-127
1,2-Dichloroethane-d4	101	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	192197
Units:	ug/L	Analyzed:	10/29/12
Diln Fac:	1.000		

Type: BS Lab ID: QC663173

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.40	94	65-130
Benzene	25.00	21.75	87	80-123
Trichloroethene	25.00	21.26	85	76-121
Toluene	25.00	23.45	94	80-120
Chlorobenzene	25.00	23.48	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	92	69-148
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-121

Type: BSD Lab ID: QC663174

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	22.99	92	65-130	2	22
Benzene	25.00	22.49	90	80-123	3	20
Trichloroethene	25.00	21.08	84	76-121	1	20
Toluene	25.00	23.39	94	80-120	0	20
Chlorobenzene	25.00	23.36	93	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	93	69-148
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC663175	Batch#:	192197
Matrix:	Water	Analyzed:	10/29/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC663175	Batch#:	192197
Matrix:	Water	Analyzed:	10/29/12
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	92	69-148
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Chromium

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Chromium	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Prepared:	10/24/12
Diln Fac:	5.000	Analyzed:	10/26/12
Batch#:	192063		

Field ID	Type	Lab ID	Result	RL
TS-OUT	SAMPLE	240654-027	1.9	1.0
TS-MID	SAMPLE	240654-028	9.0	1.0
TS-IN	SAMPLE	240654-029	1.5	1.0
	BLANK	QC662608	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Nickel

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Nickel	Sampled:	10/23/12
Matrix:	Water	Received:	10/23/12
Units:	ug/L	Prepared:	10/24/12
Diln Fac:	5.000	Analyzed:	10/26/12
Batch#:	192063		

Field ID	Type	Lab ID	Result	RL
TS-OUT	SAMPLE	240654-027	ND	1.0
TS-MID	SAMPLE	240654-028	ND	1.0
TS-IN	SAMPLE	240654-029	25	1.0
	BLANK	QC662608	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Chromium

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Chromium	Batch#:	192063
Field ID:	ZZZZZZZZZZ	Sampled:	10/23/12
MSS Lab ID:	240640-002	Received:	10/23/12
Matrix:	Water	Prepared:	10/24/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	5.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC662609		200.0	188.1	94	75-120		
BSD	QC662610		200.0	189.1	95	75-120	1	20
MS	QC662611	4.793	200.0	170.5	83	66-120		
MSD	QC662612		200.0	194.0	95	66-120	13	32

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Nickel

Lab #:	240654	Location:	SVG-Scotts Valley Aviza
Client:	Arcadis	Prep:	EPA 3010A
Project#:	RC000463	Analysis:	EPA 6020
Analyte:	Nickel	Batch#:	192063
Field ID:	ZZZZZZZZZZ	Sampled:	10/23/12
MSS Lab ID:	240640-002	Received:	10/23/12
Matrix:	Water	Prepared:	10/24/12
Units:	ug/L	Analyzed:	10/26/12
Diln Fac:	5.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC662609		500.0	466.2	93	61-131		
BSD	QC662610		500.0	471.3	94	61-131	1	23
MS	QC662611	<0.1769	500.0	419.3	84	57-126		
MSD	QC662612		500.0	481.8	96	57-126	14	42

RPD= Relative Percent Difference

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Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 240646
ANALYTICAL REPORT

Arcadis	Project : RC000463
2000 Powell St	Location : SVG Aviza Scotts Valley
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
TS-OUT	240646-001
TS-MID	240646-002
TS-IN	240646-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Desiree N. Tetrault Date: 12/12/2012

Desiree N. Tetrault
Project Manager
(510) 486-0900

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**240646**
Client:	**Arcadis**
Project:	**RC000463**
Location:	**SVG Aviza Scotts Valley**
Request Date:	**10/23/12**
Samples Received:	**10/23/12**

This data package contains sample and QC results for three water samples, requested for the above referenced project on 10/23/12. See attached cooler receipt form for any sample receipt problems or discrepancies.

EPA 7199 Cr+6 (EPA 7199):
Accutest Labs in San Jose, CA performed the analysis (NELAP certified). Please see the Accutest Labs case narrative.

Laboratory Job Number 240646

Subcontracted Products

Accutest Labs

Northern California
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LABORATORIES

11/06/12

Technical Report for

Curtis & Tompkins, Ltd.

Subcontract-240646

RC000463.0112.NA212(SVG Aviza, Scotts Valley)

Accutest Job Number: C24408

Sampling Date: 10/23/12

Report to:

Curtis & Tompkins, Ltd.
2323 Fifth St.
Berkeley, CA 94710
desiree.tetrault@ctberk.com

ATTN: Desiree Tetrault

Total number of pages in report: **15**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Kesavalu M. Bagawandoss, Ph.D., J.D., Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

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Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Summary of Hits **4**
Section 3: Sample Results **5**
3.1: C24408-1: TS-OUT 6
3.2: C24408-2: TS-MID 7
3.3: C24408-3: TS-IN 8
Section 4: Misc. Forms **9**
4.1: Chain of Custody 10
Section 5: General Chemistry - QC Data Summaries **12**
5.1: Method Blank and Spike Results Summary 13
5.2: Duplicate Results Summary 14
5.3: Matrix Spike Results Summary 15

Accutest Laboratories

Sample Summary

Curtis & Tompkins, Ltd.

Job No: C24408

Subcontract-240646
Project No: RC000463.0112.NA212(SVG Aviza, Scotts Valley)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C24408-1	10/23/12	13:04	HT	10/23/12	AQ	Ground Water	TS-OUT
C24408-2	10/23/12	13:09	HT	10/23/12	AQ	Ground Water	TS-MID
C24408-3	10/23/12	13:13	HT	10/23/12	AQ	Ground Water	TS-IN

Summary of Hits

Job Number: C24408
Account: Curtis & Tompkins, Ltd.
Project: Subcontract-240646
Collected: 10/23/12

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C24408-1	**TS-OUT**					
No hits reported in this sample.						
C24408-2	**TS-MID**					
Chromium, Hexavalent		0.0038	0.00052		mg/l	SW846 7199
C24408-3	**TS-IN**					
No hits reported in this sample.						

Northern California
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TS-OUT		
Lab Sample ID:	C24408-1	**Date Sampled:**	10/23/12
Matrix:	AQ - Ground Water	**Date Received:**	10/23/12
		Percent Solids:	n/a
Project:	Subcontract-240646		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.00052	0.00052	mg/l	1	10/23/12 16:09	PH	SW846 7199

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TS-MID		
Lab Sample ID:	C24408-2	**Date Sampled:**	10/23/12
Matrix:	AQ - Ground Water	**Date Received:**	10/23/12
		Percent Solids:	n/a
Project:	Subcontract-240646		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.0038	0.00052	mg/l	1	10/23/12 16:36	PH	SW846 7199

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TS-IN		
Lab Sample ID:	C24408-3	**Date Sampled:**	10/23/12
Matrix:	AQ - Ground Water	**Date Received:**	10/23/12
		Percent Solids:	n/a
Project:	Subcontract-240646		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.00052	0.00052	mg/l	1	10/23/12 16:45	PH	SW846 7199

RL = Reporting Limit

Northern California ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest CTCAB4752

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order # C24408

Send Results to:
Contact & Company Name: Curtis + Tompkins
Address: Desiree Tetrault
City: Berkeley State: CA Zip:
Telephone: 510-204-2221
Fax:
E-mail Address: www.curtisandtompkins.com
Project Name/Location (City, State): SVG AVIZA Scotts Valley
Project #: RC000463.0112.NA212
Sampler's Printed Name: Heather Tauscher
Sampler's Signature: Heather Tauscher

Preservative	None
Filtered (✓)	
# of Containers	1
Container Information	poly

PARAMETER ANALYSIS & METHOD

Keys
Preservation Key: A. H_2SO_4 B. HCL C. HNO_3 D. NaOH E. None F. Other: G. Other: H. Other:
Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: 10. Other:
Matrix Key: SO - Soil SE - Sediment NL - NAPL/Oil W - Water SL - Sludge SW - Sample Wipe T - Tissue A - Air Other:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	c-6 7199 Hexavalent Chromium						LAB #	REMARKS
TS-OUT	10/23/12	1304		X	W	X						-1	
TS-MID	10/23/12	1309		X	W	X						-2	
TS-IN	10/23/12	1313		X	W	X						-3	

Special Instructions/Comments:
* 24 hr hold time ** Report and bill directly to Curtis + Tompkins

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name: Accutest (✓)	Cooler Custody Seal (✓)	Printed Name: Heather Tauscher	Printed Name: Ricky Grams	Printed Name: Ricky Grams	Printed Name: LEE BAUTISTA
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature: Heather Tauscher	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: ARCADIS	Firm/Courier: FedEx	Firm/Courier: FedEx	Firm: ACCUTEST
Shipping Tracking #:	Condition/Cooler Temp: 11.2°C	Date/Time: 10/23/12 @ 1415	Date/Time: 10/23/12 1415	Date/Time: 10/23/12 1445	Date/Time: 10/23/12 1445

20730826 CofC AR Form 01.12 2007

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

C24408: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C24408 **Client:** ARCADIS **Project:** SVG AVIZA

Date / Time Received: 10/23/2012 **Delivery Method:** Client **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (11.2/11.2); 0

Cooler Security	Y	or	N
1. Custody Seals Present:	☐		☑
2. Custody Seals Intact:	☐		☐
3. COC Present:	☑		☐
4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☐		☑
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☐		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:408.588.0200

2105 Lundy Avenue
F: 408.588.0201

San Jose, CA 95131
www/accutest.com

C24408: Chain of Custody
Page 2 of 2

Northern California
ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24408
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract-240646

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP4293/GN9398	0.00052	0.0	mg/l	0.02	0.0198	99.0	90-110%

Associated Samples:
Batch GP4293: C24408-1, C24408-2, C24408-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24408
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract-240646

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP4293/GN9398	C24408-1	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:
Batch GP4293: C24408-1, C24408-2, C24408-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24408
Account: CTCAB - Curtis & Tompkins, Ltd.
Project: Subcontract-240646

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP4293/GN9398	C24408-1	mg/l	0.0	0.02	0.019	95.0	85-115%

Associated Samples:
Batch GP4293: C24408-1, C24408-2, C24408-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits